

**Notice of Allowability**

Application No.

10/614,748

Applicant(s)

WOLFORD ET AL.

Examiner

Daniel S. Larkin

Art Unit

2856

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amdt. and Replacement drawing sheets filed 17 Sept. 2004 and Ex. Amdt. of 28 Sept. 2004.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☒ The drawings filed on 17 September 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**DANIEL S. LARKIN**  
**PRIMARY EXAMINER**

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicants, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Robert L. Greeson on 28 September 2004.

The application has been amended as follows:

Claim 1, claim line 9: Delete the term "canister" and insert the term -- protective enclosure means --.

Claim 5, claim line 18: Insert the term -- means -- after the term "sensor".

Claim 6, claim line 2: Delete the term "within"

Claim 6, claim line 3: Delete the terms "said canister".

Claim 6, claim line 3: Insert the term -- means -- after the term "sensor".

Claim 19, claim line 3: Delete the phrase "within said canister".

Claim 19, claim line 3: Delete the phrase "within said canister".

2. The following is an examiner's statement of reasons for allowance:

Prior art was not relied upon to reject claims 1-22 because the prior art fails to teach and/or make obvious the following:

Claims 1-4: Providing an apparatus for detecting leaks in a liquid storage tank

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comprising: barometric pressure measuring means configured for measuring atmospheric pressure substantially at the surface of said liquid when a protective enclosure means is immersed therein; barometric pressure and differential pressure calculation means; tank dynamic and barometric pressure adjusted tank bottom pressure calculation means; and tank content mass calculation means in combination with all of the remaining limitations of the claim.

Claims 5-8: Providing an apparatus for detecting leaks in a liquid storage tank comprising: first barometric pressure measuring means configured for measuring atmospheric pressure substantially at the surface of said liquid when a protective enclosure means is immersed therein and for communicating such measurement to a low side pressure measurement component of a differential pressure sensor; a second barometric pressure measuring means configured for measuring atmospheric pressure substantially at the surface of said liquid when said protective enclosure means is immersed therein; barometric pressure and differential pressure calculation means; tank dynamic and barometric pressure adjusted tank bottom pressure calculation means; and tank content mass calculation means in combination with all of the remaining limitations of the claim.

Claims 9-15: Providing a method for detecting leaks in a storage tank, comprising the steps of selecting a mass detection system comprising: barometric pressure measuring means; barometric pressure and differential pressure calculation means; tank dynamic and barometric pressure adjusted tank bottom pressure calculation means; and tank content mass calculation means; placing a protective

enclosure at a bottom interior surface of the storage tank; and actuating the mass detection system in combination with all of the remaining limitations of the claim.

Claims 16-22: Providing a method for detecting leaks in a storage tank, comprising the steps of selecting a mass detection system comprising: first barometric pressure measuring means; a second barometric pressure measuring means; barometric pressure and differential pressure calculation means; tank dynamic and barometric pressure adjusted tank bottom pressure calculation means; and tank content mass calculation means; placing a protective enclosure at a bottom interior surface of the storage tank; and actuating the mass detection system in combination with all of the remaining limitations of the claim.


Any comments considered necessary by applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Larkin whose telephone number is 571-272-2198. The examiner can normally be reached on 8:00 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Larkin  
AU 2856  
28 September 2004



**DANIEL S. LARKIN**  
**PRIMARY EXAMINER**